CLAIMS

1. A method of etching a portion of a substrate surface, comprising the steps of:

masking the portion with passivation material having edges that define boundaries of the surface portion such that within the boundaries the surface portion is exposed for etching;

depositing a metal layer over the passivation material; and then

etching the surface portion.

2. The method of claim 1 wherein the masking step includes depositing a layer of silicon nitride on the substrate surface and then depositing on the silicon nitride a layer of silicon carbide.

3. The method of claim 1 including the step of fabricating on the substrate drop generator layers that provide for controlled expulsion of liquid from the substrate, and wherein the step of masking with the passivation material includes the simultaneous deposition of the passivation material at a location away from the exposed surface portion to enable use of some of the passivation material as one of the drop generator layers as well as the mask.

4. The method of claim 1 including the step of underlying the passivation material with a layer of phosphosilicate glass at locations near the boundaries of the exposed surface.

5. The method of claim 1 including the step of fabricating on the substrate drop generator layers that provide for controlled expulsion of liquid from the substrate, and wherein the step of covering the passivation material with the metal layer includes the simultaneous deposition of the metal layer at a location away from the exposed surface portion to enable use of some of that metal layer as one of the drop generator layers.

6. A method of masking a surface of a substrate for controlled etching of a portion of that surface, comprising the steps of:

providing on the substrate surface an oxide layer in a pattern having edges that define boundaries of the surface portion such that within the boundaries the surface portion is exposed for etching; and

covering the oxide layer near the edges with passivation material.

7. The method of claim 6 including the step of patterning some of the oxide layer to define a part of a transistor gate carried by the substrate.

8. The method of claim 6 including the step of covering the edges of the oxide layer with passivation material.

9. The method of claim 6 including the step of temporarily covering the surface portion of the substrate with a layer of phosphosilicate glass that is removed before etching of the surface portion.

10. The method of claim 6 wherein the substrate carries a heat transducer and wherein the step of covering the oxide layer with passivation material includes covering the heat transducer with passivation material.

11. A method of fabricating multiple layers of a thermal inkjet printhead that includes a substrate and trenches for moving ink across the substrate, as well as drop generator components for ejecting drops of ink from the substrate, comprising the steps of:

providing on the substrate a layer to serve both as a drop generator component and as a mask to define the trenches for etching; and then

etching the trenches.

12. The method of claim 11 wherein the providing step includes growing a layer of oxide to serve as a transistor gate component of the drop generator as well as the mask.

13. The method of claim 12 including the step on capping the oxide layer near the trench with a layer of passivation material.

14. The method of claim 11 wherein the providing step comprises depositing a layer of passivation material to serve as both a drop generator component and the mask.

15. An assembly for conducting liquid across a portion of a substrate, comprising:

a transistor and a heat transducer carried on the substrate and adapted for instantaneously vaporizing an amount of liquid;

a trench etched into the substrate for conducting the liquid; and

a mask layer substantially surrounding the trench and comprising a layer selected from a group of layers that includes an oxide layer that also forms part of the gate of the transistor and a passivation layer that also covers part of the heat transducer.

16. The assembly of claim 15 wherein the mask layer is the oxide layer that is covered with the passivation layer near but spaced slightly from the trench.

17. The assembly of claim 15 wherein the mask layer is the passivation layer and wherein the passivation layer is covered with a metal layer.

18. The assembly of claim 17 wherein a layer of phosphosilicate glass underlies the passivation layer at locations near but spaced slightly from the trench.

19. The assembly of claim 18 wherein the passivation layer includes silicon nitride and silicon carbide.

20. The assembly of claim 15 including a cartridge to which the assembly is connected, the cartridge supplying liquid to the assembly.